Name:

at1110paper_practice_test (v15)

1. Factor the expression.

$$x^2 + 4x - 21$$

$$(x - 3)(x + 7)$$

2. Expand the following expression into standard form.

$$(4x + 9)^2$$

$$16x^2 + 36x + 36x + 81$$
$$16x^2 + 72x + 81$$

3. Solve the equation.

$$9x^2 + 39x - 39 \;=\; 2x^2 - 5x - 4$$

$$7x^2 + 44x - 35 = 0$$
$$(7x - 5)(x + 7) = 0$$
$$x = \frac{5}{7} \qquad x = -7$$

4. Solve the equation with factoring by grouping.

$$20x^2 - 15x - 8x + 6 \;=\; 0$$

$$(5x - 2)(4x - 3) = 0$$
$$x = \frac{2}{5} \qquad x = \frac{3}{4}$$

5. Solve the equation.

$$(4x - 9)(7x - 6) \;=\; 0$$

$x = \frac{9}{4}$ $\qquad$ $x = \frac{6}{7}$

6. Expand the following expression into standard form.

$$(5x - 7)(5x + 7)$$

$25x^2 + 35x - 35x - 49$

$25x^2 - 49$

7. Factor the expression.

$$9x^2 - 25$$

$(3x - 5)(3x + 5)$

8. Expand the following expression into standard form.

$$(5x + 6)(8x - 3)$$

$40x^2 - 15x + 48x - 18$

$40x^2 + 33x - 18$